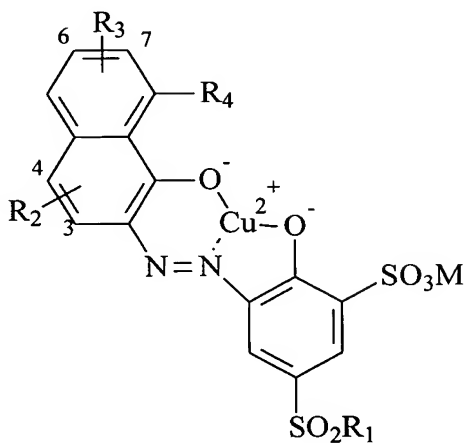


Claims:

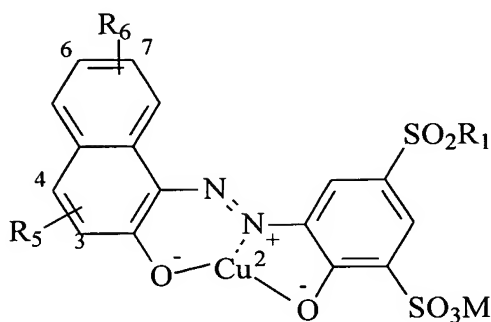
1. Copper complex monoazo dyes of general formulas (V)

5



(V)

and (VI)



(VI)

wherein

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M represents hydrogen, a metal cation or an ammonium cation, which optionally may be substituted by one or more alkyl or substituted alkyl groups or alkyl ethers of diols each having from 1 to 18 C atoms;

R₁ represents alkyl having from 1 to 4 C atoms, substituted alkyl having from 2 to 4 C atoms, where the substituents are selected from the group consisting of hydroxy and sulfato; or alkenyl having from 2 to 4 C atoms;

20

R₂ represents hydrogen or SO₃M;

- 5 R₃ represents hydrogen, SO₃M, NH₂, NHCOD₁, where D₁ represents unsubstituted or substituted alkyl having from 1 to 6 C atoms, where the substituents are selected from the group consisting of carboxy, chloro or bromo; phenyl or substituted phenyl, where the substituents are selected from the group consisting of methyl, chloro, bromo, carboxy or sulfo; or NHSO₂D₂, where D₂ represents unsubstituted alkyl having from 1 to 6 C atoms, phenyl or substituted phenyl, where the substituents are selected from the group consisting of methyl, fluoro, chloro or bromo;
- 10 R₄ represents hydrogen, SO₃M, NH₂ or NHSO₂D₃, where D₃ represents alkyl having from 1 to 6 C atoms, phenyl or substituted phenyl where the substituents are selected from the group consisting of methyl, fluoro, chloro or bromo;
- 15 R₅ represents hydrogen, SO₃M, COOM or COND₄D₅, where D₄ and D₅ independently represent hydrogen, unsubstituted or substituted alkyl having from 1 to 6 C atoms, where the substituents are selected from the group consisting of methoxy, ethoxy, isopropoxy and hydroxy
- and
- 20 R₆ represents hydrogen or SO₃M.

2. Copper complex monoazo dyes according to Claim 1, wherein R₂, R₃, R₄, R₅, R₆ are as defined in claim 1;
- 25 R₁ represents alkyl having from 1 to 4 C atoms
- and
- M represents hydrogen, a metal cation or an ammonium cation, which optionally may be substituted by one or more alkyl or substituted alkyl groups or alkyl ethers of diols each having from 1 to 12 C atoms.
- 30 3. Copper complex monoazo dyes according to Claim 1, wherein R₂, R₅ and R₆ are as defined in claim 1;
- R₁ represents alkyl having from 1 to 4 C atoms;
- M represents hydrogen, a metal cation or an ammonium cation, which optionally may be substituted by one or more alkyl or substituted alkyl
- 35 groups or alkyl ethers of diols each having from 1 to 12 C atoms
- and
- R₃, R₄ independently represent hydrogen or SO₃M.

4. Copper complex monoazo dyes according to Claim 1, wherein

R_2 and R_6 are as defined in claim 1;

R_1 represents alkyl having from 1 to 4 C atoms;

R_3 , R_4 independently represent hydrogen or SO_3M ;

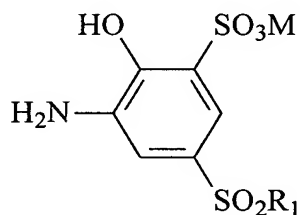
5 M represents hydrogen, a metal cation or an ammonium cation, which optionally may be substituted by one or more alkyl or substituted alkyl groups or alkyl ethers of diols each having from 1 to 12 C atoms

and

R_5 represents hydrogen, SO_3M or COOM .

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5. Process for the preparation of copper complex monoazo dyes according to Claim 1, wherein n aromatic amine of general formula (VII),

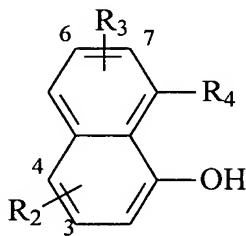


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(VII)

where R_1 and M are as defined in claim 1, is diazotized and subsequently coupled with a compound of formula (VIII)

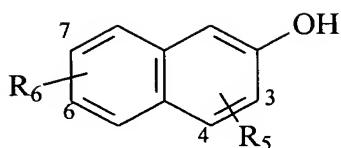
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(VIII)

25

or (IX)



(IX)

- 5 wherein R₂, R₃, R₄, R₅ and R₆ are as defined in claim 1,
to the intermediate metal free dye
and
the intermediate metal free dye obtained in this way is reacted with a
coppering compound to form the copper complex dyes of general formulas
10 (V) and (VI).
6. Process for recording text and images on recording sheets and for dying and
printing natural or synthetic fiber materials, nanoporous materials, leather
and aluminium by applying thereto a copper complex monoazo dye
15 according to Claim 1.
7. Liquid dye preparations comprising at least one copper complex monoazo
dye or a mixture of copper complex monoazo dyes according to Claim 1.
- 20 8. Inks for ink jet printing, comprising at least one copper complex monoazo dye
or a mixture of copper complex monoazo dyes according to Claim 1.
9. Inks for ink jet printing, comprising in addition to at least one copper complex
monoazo dye or a mixture of copper complex monoazo dyes according to
25 Claim 1 one or more other dyes.